

AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0035] as follows:

Figure 3, panels A and B, shows the signal levels for cartilage and synovial fluid with RARE (FIG. 3A) and DEFT (FIG. 3B) pulse sequences, both TE = 14 milliseconds.

Please amend paragraph [0044] as follows:

~~Figure 11A~~ Figure 11, panels A and B, shows a 2D cartilage thickness map (FIG. 11B) ~~where constructed from a proton density fast spin-echo MR image (FIG. 11A) demonstrates of~~ a focal cartilage defect in the posterior lateral ~~femoral~~ femoral condyle (black arrows). White arrows indicate endpoints of the thickness map.

Please amend paragraph [0045] as follows:

Figure 12, panels A and B, shows the anatomic coordinate system in the femur (FIG. 12A) and in the tibia (FIG. 12B).

Please amend paragraph [0047] as follows:

Figure 14, panels A and B, shows additional marker names and locations for MR to optical cross registration. FIG. 14A shows additional marker names on a side-view of a subject. FIG. 14B shows additional marker names on a frontal view of a subject.

Please amend paragraph [0048] as follows:

Figure 15, panels A and B, shows the marker names and locations for the standard point-cluster technique protocol. FIG. 15A shows marker names and locations on a side-view of a subject. FIG. 15B shows marker names and locations on a frontal view of a subject.

Please amend paragraph [0049] as follows:

Figure 16, panels A to C, are graphs depicting displacement over time in the X (FIG. 16A), Y (FIG. 16B) and Z (FIG. 16C) axes. Each graph depicts shows the error in the tibial location estimate for the rigid body model (dotted line) and the intrical deformation correction technique (solid line).

Please amend paragraph [0050] as follows:

Figure 17, panels A to C, are graphs depicting displacement over time in the α (FIG. 16A), β (FIG. 17B) and γ (FIG. 17C) axes. Each graph depicts ~~shows~~ the error in the tibial orientation estimate for the rigid body model (dotted line) and the intrical deformation correction technique (solid line).